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IMPACT OF CAPITAL ADEQUACY, CREDIT RISK MANAGEMENT AND STAFF COMPETENCE ON BANK FAILURE IN KENYA (1993-2016)

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ABSTRACT

Bank failures pose a significant challenge to the stability of the financial sector and have profound implications for both the economy and regulatory authorities. In an attempt to address these challenges, this study focuses on the internal determinants of bank failure. Specifically, the research examines how three bank-specific factors, which include capital adequacy, credit concentration, and staff competencies, impacted bank failures in Kenya between 1993 and 2016. A mixed methods approach was employed, combining secondary data from the Central Bank of Kenya and from 24 failed banks through directed content analysis of published supervisory reports, with primary data collected through interviews with regulatory officials. Multiple regression analysis was used to evaluate the influence of the three variables on bank failure, measured by deviation from the 20 per cent regulatory liquidity threshold. The results indicated that capital adequacy had a statistically significant negative relationship with bank failure ($\beta = -8.561$, $p = 0.036$), showing that well-capitalised banks were less prone to collapse. In contrast, credit concentration had a positive and statistically significant effect ($\beta = 15.318$, $p < 0.001$), indicating that more concentrated loan portfolios were associated with greater failure severity. Staff competencies exhibited a negative but statistically insignificant effect ($\beta = -6.264$, $p = 0.122$); therefore, this variable did not show an independent stabilising impact in this analysis model. The study concludes that capital buffers and staff capabilities are critical in preventing institutional failure and recommends enhanced regulatory enforcement, capacity building, and targeted improvements in credit oversight to foster greater resilience in Kenya's banking sector.

Key Word: *Bank Failure, Capital Adequacy, Credit Risk Management, Staff Competence*

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INTRODUCTION

Bank failures are a recurring global phenomenon that affects both developing and developed economies. While the frequency and impact of these events vary significantly by country, region, and time period, the root causes frequently stem from inadequate capital, poor management, or exposure to risky assets (Kaufman, 1994; Cheserek, 2007). As Kaufman (1994) and Cheserek (2007) emphasize, such failures are often triggered by serious liquidity issues, capital deficiencies, poor corporate governance, and weak asset quality. These failures can lead to a bank's collapse, which in turn can trigger a chain reaction, affecting the broader financial system. In some cases, as seen during the global financial crisis of 2008, even highly regulated and developed economies, such as the United States, are not immune to large-scale bank failures (Goodhart, 2008). Such crises highlight the vulnerabilities within the banking sector, making it essential for regulators and policymakers to understand the causes and consequences of bank failure to prevent future systemic disruptions.

Economists such as Barrell et al. (2010), Reinhart and Rogoff (2011), Stiroh (2015), DeYoung and Roland (2001), as well as Bertay, Demirgüç-Kunt and Huizinga (2013) have scrutinised the causes and frequency of bank failures due to the increasing occurrence and the immense costs associated with failure. Policymakers have equally sought to understand why some banks fail while others succeed in the same environment, aiming to protect individual institutions from insolvency and to uphold bank stability. Identifying causes of failure is a crucial step toward preventing bank runs and broader financial crises. In response, governments have introduced safety nets such as lender-of-last-resort facilities, deposit insurance (both explicit and implicit), and frameworks for regulation, supervision, and resolution. For example, in the United States, the establishment of the Federal Deposit Insurance Corporation in 1934 addressed public confidence and deposit protection concerns following the Great Depression.

In the African context, Kane et al. (2001) confirmed that the banking crisis in several Sub-Saharan countries during the 1990s exhibited notable regional variations. According to Moyo et al. (2014) and Brownbridge (1998), bank failures across the region were primarily driven by poor credit management, excessive risk-taking, weak regulatory enforcement, insufficient corporate governance, and capital inadequacy. Fofack (2005) reported that non-performing loans, a proxy for poor asset quality, reached over 30 per cent of total loans in the 1990s, highlighting widespread institutional weaknesses. Situating this issue within a broader regional context, the Nigerian banking crises serve as a pertinent example of widespread financial instability. Adeyemi (2011) observed that incessant bank failures in Nigeria were fundamentally driven by severe capital inadequacy, a lack of transparency, and a massive accumulation of non-performing loans. Furthermore, Sanusi (2010) demonstrated that the 2009 banking sector collapse in Nigeria was primarily a result of major failures in corporate governance, reckless credit expansion by executives, and inadequate risk management frameworks.

Kenya experienced successive waves of bank failures between 1984 and 1989, prompting the establishment of the Deposit Protection Fund Board (now the Kenya Deposit Insurance Corporation). A second wave of failures occurred between 1993 and 1994, involving politically linked banks, followed by a third wave from 2000 to 2005, where seven banking institutions were closed. The crisis during this period was partly attributed to a large portfolio of non-performing loans (NPLs) and

high interest rates (Gudmundsson, Ngoka-Kisinguh, & Odongo, 2013). By the end of 2001, NPLs had reached KES 107 billion, accounting for 38 per cent of total loans in the banking sector (Central Bureau of Statistics of Kenya, 2002).

The most recent wave of bank collapse occurred between 2015 and 2016 when the regulator placed three Tier III institutions namely Dubai, Imperial, and Chase Banks under receivership in rapid succession. This era of distress interrupted a decade of relative stability and raised immediate concerns regarding the resilience of smaller financial entities (Kilonzo & Atheru, 2024).

These waves of bank failures have had profound economic and social costs. For instance, the closure of 16 financial institutions in the 1990s resulted in freezing assets and deposits worth approximately USD 370 million, which led to estimated total losses of USD 158 million (Central Bank of Kenya, 1995). The 2015-2016 banks failure wave resulted into a major policy shock marked by the implementation of the Interest Rate Capping law enacted in October 2016. This law constrained banking institutions from effectively pricing their risks, which further impacted their earning margins. The social and economic costs of these crises were substantial (Kilonzo & Atheru, 2024). Despite these recurring setbacks, the banking sector remained stable and profitable between 2006 and 2015, reporting average returns on equity of 20 per cent and a compound annual loan book growth of 16 per cent from 2011 to 2015 (Wanjugu, 2017).

To understand the root causes of these recurring crises, it is necessary to examine the specific internal mechanisms of the failed institutions. Capital adequacy, a key factor in institutional resilience, is frequently associated with bank failures. Olalekan and Adeyinka (2013) define it as the financial strength and stability of a bank, measured as a ratio of its primary capital to total assets. Capital adequacy enables banks to absorb financial shocks and is critical for maintaining investor and depositor confidence. This study investigates the relationship between capital adequacy and bank failure in Kenya during the 1993 to 2016 period.

Another significant determinant of bank survival is credit risk management, which encompasses the processes used to assess, monitor, and mitigate potential losses from loan defaults. Weak credit policies have been a leading cause of bank collapse globally (Brownbridge, 1998; Moyo et al., 2014). In Kenya, rising non-performing loan levels have historically preceded major bank failures (Fofack, 2005). This study examined the impact of credit risk practices on the stability of Kenyan banks. This highlights the importance of effective credit risk management in maintaining a bank's financial health and preventing instability.

Staff competencies also play a critical role in shaping institutional performance. The skills, ethical standards, and leadership capacity of employees directly influence compliance, risk management, and customer service (Mwangi, 2014; Njuguna, 2012). Inadequate technical expertise and ineffective oversight by underqualified personnel can expose banks to operational risks (Muriithi & Waweru, 2017). This study, therefore, analysed the impact of capital adequacy, credit risk management, and staff competencies to determine how these internal dynamics contributed to or mitigated the risk of bank failure in Kenya between 1993 and 2016.

PROBLEM ANALYSIS

Bank failures have widespread economic implications in Kenya, including reduced public trust, loss of savings, and financial sector instability. Between 1993 and 2016, a record twenty four banking

institutions collapsed, revealing deep institutional weaknesses that extended beyond external macroeconomic pressures (Central Bank of Kenya, 2016). A key bank-specific factor was capital adequacy, which, despite Basel regulations and Central Bank of Kenya guidelines, many institutions remained undercapitalised. These shortcomings resulted in misreported risks, overdependence on short-term liabilities, and inadequate earnings to build sufficient capital buffers (Olalekan & Adeyinka, 2013; Wanjugu, 2017). When shocks emerged, these vulnerabilities crystallised, leading to institutional collapse.

Other bank-specific factors which contributed to the crisis were weak credit risk management and limited staff competencies. Poor loan evaluation and oversight led to an increase in non-performing assets, which further eroded financial health (Fofack, 2005; Moyo et al., 2014). At the same time, gaps in staff skills and governance structures limited the ability of institutions to detect and respond to risks effectively (Brownbridge, 1998). Despite the magnitude of these closures, existing empirical literature has largely examined these internal factors in isolation or focused primarily on bank profitability rather than the severity of failure. Consequently, a critical research gap remains regarding the combined impact of capital adequacy, credit concentration, and staff competencies on the collapse of these twenty four institutions over the extended 1993 to 2016 period. This study investigated the impact of these internal weaknesses on bank failure in Kenya, with the aim of informing regulatory and institutional reforms.

THEORETICAL FRAMEWORK

The study is anchored on three interrelated theories: the Capital Buffer Theory, the Moral Hazard Theory, and the Financial Instability Hypothesis. Together, these theories provide a comprehensive lens to examine how bank-specific factors influence failure, particularly capital adequacy, credit risk management, and staff competencies.

The Capital Buffer Theory, developed by Marcus (1984) and further refined by Milne and Whalley (2001), explains how banks adjust their capital levels relative to regulatory requirements to protect against insolvency. This theory is directly relevant to capital adequacy, suggesting that banks with thin buffers are more vulnerable to adverse shocks, while those with robust buffers are more resilient. When banks maintain surplus capital beyond the statutory minimum, they enhance their capacity to absorb losses and reduce the likelihood of failure. This theory is appropriate for the study as it underpins the assumption that maintaining sufficient capital is a proactive strategy for survival during times of distress, such as the collapse of twenty four banks in Kenya between 1993 and 2016.

The Moral Hazard Theory applies both to capital adequacy and credit risk management. It posits that when banks expect regulatory bailouts or central bank interventions, they are incentivised to take excessive risks, knowing losses may be covered by external actors (Jeitschko & Jeung, 2005). As regulators raise capital requirements, banks may respond by increasing their risk exposure instead of reducing it, particularly in lending practices. This theory helps explain how poor credit risk management practices, such as under-pricing of risk, aggressive lending, and lack of due diligence, can persist in the presence of implicit guarantees. It is therefore relevant for analysing both undercapitalization and the quality of risk management decisions that led to bank collapses in Kenya.

Minsky's Financial Instability Hypothesis (1974) provides insight into the role of staff competencies in the context of systemic fragility. According to this theory, periods of financial optimism lead to speculative borrowing and asset bubbles, followed by sharp contractions. A lack of staff capacity to

accurately assess risk, price products appropriately, and implement prudent lending standards contributes to overexposure during boom periods. As the boom turns to bust, weak internal controls and poorly trained personnel are unable to adjust or respond effectively, accelerating institutional collapse. The theory is well-suited to this study because it connects cyclical financial behaviour to institutional governance and operational shortcomings, offering a broader perspective to explain bank failures.

These theories, therefore, provide a robust framework for assessing how capital adequacy, credit risk management, and staff competencies shaped the wave of bank failures in Kenya and why some institutions were unable to withstand financial pressures despite elaborate regulatory guidelines. To operationalize this, the study explicitly aligns the Capital Buffer Theory with the assessment of capital adequacy, applies the Moral Hazard Theory to evaluate credit risk management, and utilizes the Financial Instability Hypothesis to examine the critical role of staff competencies in institutional survival.

EMPIRICAL REVIEW

Bank failure is defined as the inability of an institution to meet its financial obligations when they fall due, an event that typically leads to insolvency, the loss of a banking license, or placement under statutory management (Reinhart & Rogoff, 2011). Because these failures are critical events for the financial system, their consequences extend beyond individual institutions and often result in widespread economic instability alongside the erosion of public confidence. The severity of bank failure, although not always immediately apparent, is typically measured by the broader economic impacts, such as the share of banking system liabilities held by failed banks (Beck, Demirgüç-Kunt, & Levine, 2006). The severity of failure can also be linked to the contagion effects, where the collapse of a single bank can cause a domino effect, leading to the collapse of other institutions due to the interconnectedness of the financial system (Havemann, 2015).

Empirical studies have highlighted the role of internal factors in shaping bank stability and the likelihood of failure. One group of studies has shown that capital adequacy remains one of the most widely examined factors. Olalekan and Adeyinka (2013) define capital adequacy as a bank's financial strength, measured by the ratio of primary capital to total assets, and essential for absorbing losses. Estrella et al. (2000) found that low capital buffers significantly predicted bank failures in the United States, while Adeyemi (2011) reported similar findings in Nigeria, concluding that severe capital inadequacy, combined with a lack of transparency and a high volume of non-performing loans, directly precipitated the collapse of several financial institutions in the country. In Kenya, studies by Cheserek (2007) confirmed that well-capitalised banks were more stable and profitable, while Wanjagi, Nasieku and Fatoki, (2024) linked capital adequacy to operational efficiency and resilience. Kilonzo and Atheru (2024) emphasised the need to strengthen capital buffers as a proactive strategy against economic shocks.

Some scholars, however, argue that capital alone is not sufficient. Gathaiya (2017) found that insider lending and fraud were more decisive in recent Kenyan bank failures, with capital adequacy playing a secondary role. This perspective is strongly reinforced by Sanusi (2010), who investigated the 2009 banking crisis in Nigeria and established that major failures in corporate governance, inadequate risk management, and reckless credit expansion by bank executives were the predominant causes of the sector's distress, often overriding the protective benefits of existing capital buffers. Beck, Demirgüç-

Kunt, and Levine (2003) similarly emphasised that governance and institutional oversight may play a more central role than capital buffers alone in ensuring long-term stability. This suggests that while capital adequacy is foundational, it must be reinforced by effective management, regulatory frameworks, staff integrity, and systemic safeguards to prevent institutional collapse.

Closely linked to capital adequacy is credit risk management, which directly influences a bank's exposure to loan defaults and asset quality deterioration. Gathaiya (2017) observed that poor credit appraisal procedures and unchecked insider lending played a significant role in the collapse of Dubai Bank, Imperial Bank, and Chase Bank in Kenya. Fofack (2005) similarly reported that in the 1990s, non-performing loans surpassed 30 per cent in parts of Sub-Saharan Africa due to inadequate credit risk controls, making institutions highly susceptible to sectoral downturns. This study corroborates these findings, revealing that 45.8 per cent of failed banks in Kenya exhibited credit concentration, and regression analysis confirmed a significant positive relationship between poor credit risk management and bank failure ($\beta = 15.318$, $p < 0.01$).

However, not all scholars view credit risk as the main trigger to bank failure. Beck, Demirgüç-Kunt, and Levine (2006) contend that while credit decisions affect solvency, the broader institutional framework, such as effective supervision, governance, and regulatory accountability, plays a more decisive role in ensuring stability. They argue that even strong credit policies may fail in environments where oversight is weak or where banks operate under political influence. This view emphasises that addressing credit risk must be part of a larger institutional effort to strengthen prudential regulation and internal governance structure.

Credit concentration refers to the extent to which a bank allocates lending to a narrow set of sectors or counterparties, where a few exposures dominate total loans. This concentration is often summarized by indices such as the Herfindahl-Hirschman Index or by deviations from a specified benchmark (Skridulytė & Freitakas, 2012). In line with this, Kusi et al. (2020), in their study of 30 Ghanaian banks between 2007 and 2014, found that sectoral loan portfolio concentration weakens bank stability, with a non-linear (U-shape) effect at higher levels of specialization, suggesting that excessive concentration significantly increases fragility. This result highlights how concentration can exacerbate risk exposure in markets where shocks affect specialized sectors. In support of this view, Jahn, Memmel, and Pfingsten (2013) noted that while sector-focused portfolios recorded lower loan-loss rates and slightly lower loss volatility, these outcomes only appeared when portfolio composition was properly managed. Similarly, Shim (2019) found that greater loan portfolio diversification is associated with higher stability, especially in markets with higher credit concentration, further suggesting that high sectoral exposure increases vulnerability, as banks in these markets face greater risks from downturns in the specific sectors.

Staff competencies have also emerged as a critical factor influencing institutional resilience. Kasekende and Munene (2014) highlight the importance of operant competencies among bank loan officers in Uganda, noting that factors such as loan portfolio supervision, client training, and mobilization directly impact the performance of loan officers and, by extension, the stability of the banking sector. Mwangi (2014) similarly identified a lack of training and inadequate expertise among staff as core contributors to operational inefficiencies in Kenyan banks. Brownbridge (1998) emphasized that weak internal controls and poor management skills, particularly in credit departments, increased the likelihood of misjudged lending, fraud, and delayed regulatory responses.

The data from this study supports this view, with 41.7% of the failed banks showing evidence of poor staff capacity, particularly in risk management. Although the regression results did not reach statistical significance ($p = 0.122$), the negative beta coefficient ($\beta = -6.263$) indicates a weakening effect of incompetence on institutional stability.

Contrary perspectives, however, downplay the direct role of staff quality alone in averting failure. Gorton and Winton (2003) argue that even competent personnel cannot succeed without appropriate institutional and technological support. They suggest that outdated systems, political interference, or a lack of strategic direction from leadership often constrain staff effectiveness. This implies that improving staff qualifications and technical skills must be coupled with structural reforms to ensure that talent is effectively deployed, monitored, and retained within a strong institutional framework.

Despite growing research and practitioner interest in understanding bank failure, most Kenyan studies have examined capital adequacy, credit risk, or staff capacity in isolation, often focusing on short timeframes or on profitability rather than failure risk (Cheserek, 2007). While Wanjagi et al. (2024) and Kilonzo and Atheru (2024) have linked capital adequacy to operational stability, they did not investigate its influence during prolonged periods of systemic distress. Similarly, few studies have empirically assessed how credit concentration or staff incompetence contributed to the collapse of multiple banks across different crises. No prior research has comprehensively analysed the combined impact of these bank-specific factors on bank failure in Kenya over the extended period such as from 1993 to 2016. By addressing this gap, the present study offers a deeper understanding of how persistent weaknesses in capital strength, credit risk management, and internal capacity undermined institutional resilience during successive shocks, thereby informing future regulatory and governance reforms.

METHODOLOGY

This study adopted a mixed-methods approach to investigate the population of twenty four banks that collapsed in Kenya between 1993 and 2016. Quantitative data included each failed bank's capital adequacy ratio, credit concentration, staff competencies, and severity of bank failure measured by the deviation from the regulatory liquidity ratio. Qualitative data were derived from published supervisory assessments and four key informant interviews with Central Bank regulators and Deposit Insurance liquidators. To contextualise institutional practices, all qualitative sources were evaluated using directed content analysis. The quantitative data were analysed using descriptive statistics and multiple linear regression.

The multiple-linear regression model was specified as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where:

Y= Bank failure
X_1= Capital Adequacy
X_2 = Credit Risk Management
X_3 = Staff Competencies
α = Constant term
β_1 to β_3 = Coefficient estimates of X_1 to X_3 respectively
ε = Error term

FINDINGS

The findings are based on qualitative and quantitative data collected.

Bank Failure in Kenya (1993-2016)

The study explored factors leading to several bank closures in Kenya whose trading licences were withdrawn by the Central Bank of Kenya at diverse dates. Bank failure was thus considered the dependent variable that was measured using the level of breach of the liquidity ratio against regulatory requirements and the incidence or frequency of failure.

Frequency of Bank Failure

The frequency of bank failure over the years, as shown in Figure 1, is termed the incidence rate of bank failure. Incidence rates can also be referred to as the proportion of banks at risk of collapse to the population over the specified period.

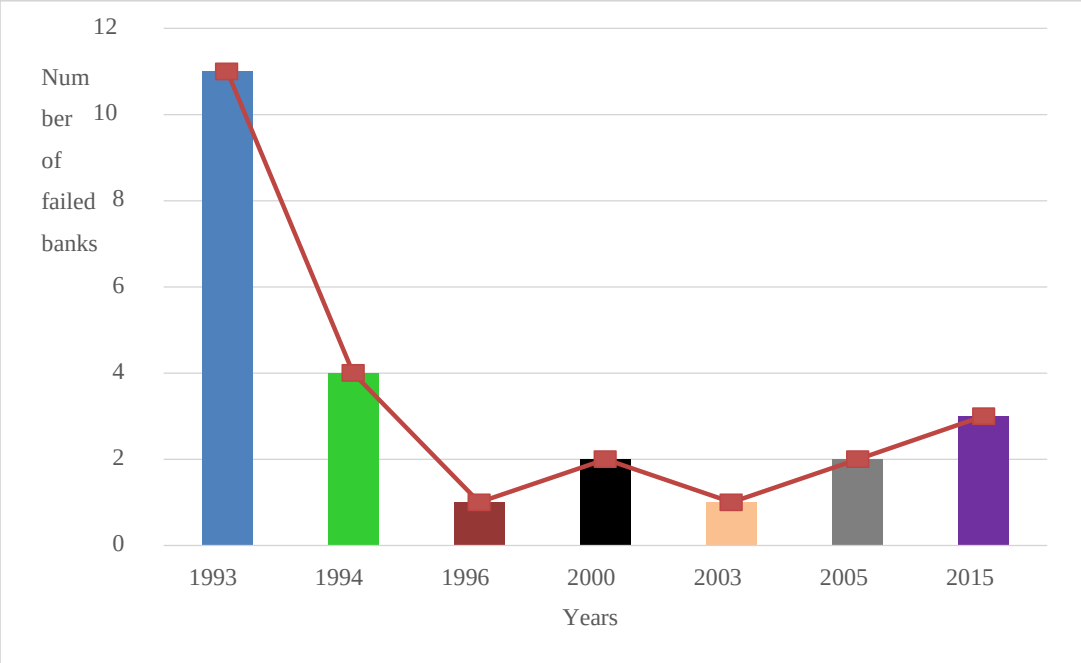

Figure 1: Frequency of Bank Failure by Year of Liquidation

Source: Author's analysis of CBK/KDIC supervision reports (1993–2016)

From Figure 1, it is evident that there were more bank failures in the 1990s, with a high frequency of collapse between 1993 and 1994. These were the years immediately after the general elections of 1992 and 1997, as noted by Brownbridge (1998), that some banks were set up for political reasons, where such political interferences in the management of banks led to bank failures in several African countries, including Kenya.

The interconnectedness of banks and the contagion effect of several banks experiencing liquidity challenges were indicators of bank failure in this study. It was observed that the years with high incidences of bank failures, up to ten bank closures were recorded in a single year. Such an occurrence puts an economy at risk of shutdown, as one Central Bank regulator explained:

Bank failure was a serious problem in Kenya as there was a near collapse of the interbank market, and the Central Bank had to provide emergency liquidity, especially to Tier III banks.

The findings highlight the severity of bank failure in Kenya, with up to ten banks closing in a single year during periods of high failure. This level of failure indicates the magnitude of the crisis, where multiple institutions experienced significant distress, severely affecting the stability of the banking sector during these years.

Liquidity ratio

The study explored how bank-specific factors influenced the severity of bank failure. The severity of bank failure was measured by the level of breach of liquidity requirement or solvency status in terms of liquidity ratio of the banks at the time of collapse. According to the Central Bank of Kenya's statutory requirements, banks must maintain a minimum of twenty per cent (20%) of all deposit liabilities, matured and short-term liabilities, in liquid assets. The study, therefore, used the liquidity status of the failed banks to explore the level of breach from the regulatory requirement of 20% as a measure of the severity of failure. The liquidity data collected from failed banks was calculated as a ratio of current liabilities to current assets (quick ratio), as shown in Table 1.

Table 1: Summary Statistics of Liquidity Ratio of Failed Banks

Measure	Statistic	Std. Error
Mean	14.03	2.369
Std. Deviation	11.607	
Minimum	2	
Maximum	36	
Skewness	0.791	0.472
Kurtosis	-0.738	0.918

Source: Author's analysis of CBK/KDIC supervision reports (1993–2016)

An element of skewedness was observed where the average liquidity ratio was 21.99 per cent, which is above the minimum required 20 per cent. This was due to outliers, which would imply that some banks in the sample did not fail due to liquidity shortfall but for other reasons. After cleaning the data for outliers, the mean liquidity ratio for the studied banks was 14.03 per cent with a standard deviation of 11.607 per cent. The average liquidity ratio of 14.03 is less than the minimum required 20 per cent, implying that, on average, the banks were in breach of the liquidity requirements. The minimum liquidity ratio was two per cent, and the maximum ratio was reduced to 36 per cent after data cleaning. The measure of variation (standard deviation) is lower than the mean, implying less dispersion about the average.

Severity of Bank Failure Based on Liquidity Breaches

The study thus measured the dependent variable, the severity of bank failure, based on the extent to which each failed bank deviated from the statutory liquidity ratio requirement of 20 per cent, as illustrated in Figure 2.

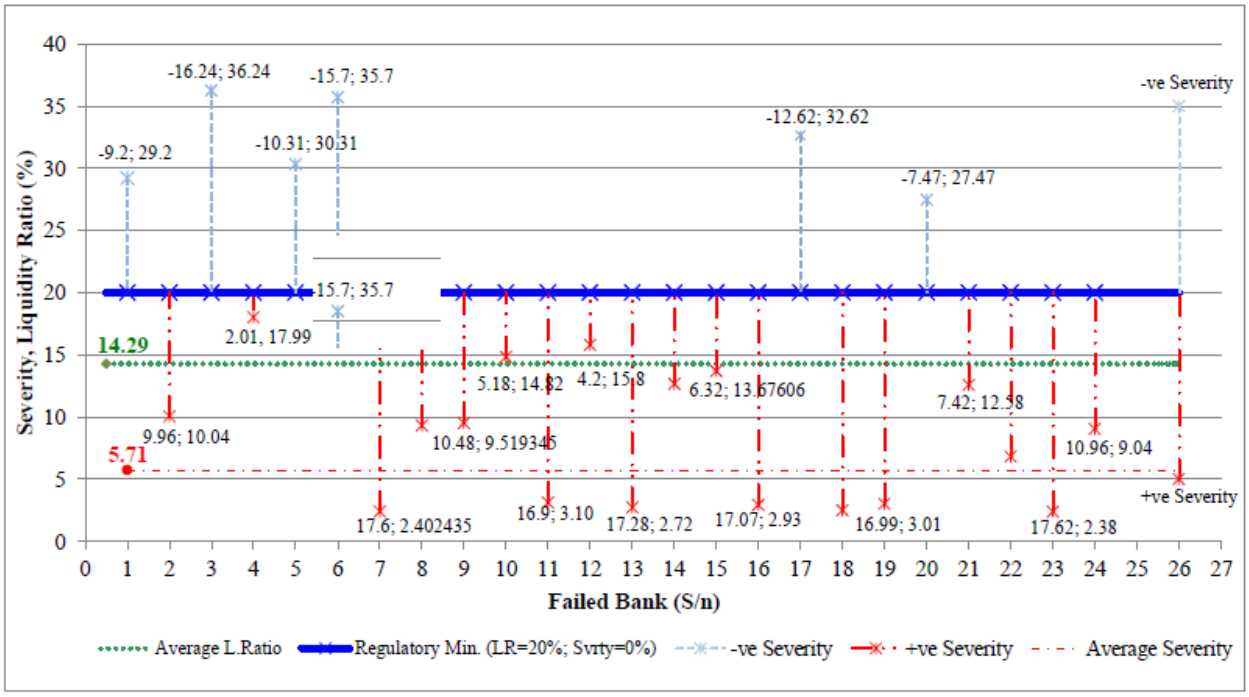

Figure 2: Levels of Severity of Failure and Liquidity Ratios of Failed Banks

Source: Author's analysis of CBK/KDIC supervision reports (1993–2016)

Figure 2 shows the levels of severity of failure for the studied banks. The data point labels show the Y-axis labels (severity, liquidity ratio) of the bank and frequency of failed banks on the X-axis. The figure demonstrates the severity of failure emanating from the deviation from the liquidity ratio requirement of 20 per cent. For instance, Bank 2 has a liquidity ratio of 10.4% thus a severity of failure of 9.6% from the minimum required 20%. On the other hand, Bank 1 has a liquidity ratio of 29.2% and a severity of failure of -9.2%. Some banks have a negative severity of failure because they did not breach the statutory requirement of 20 percent.

These variations show that while some banks failed after breaching the minimum liquidity ratio, others recorded compliance, yet were still classified as failed. This indicates that not all failures were driven solely by liquidity shortfalls. To complement the graphical illustration, a descriptive statistical analysis was conducted to summarise the severity of failure across the banks. The aspect of bank failure was measured by how far the banks breached the regulatory requirement of a 20% liquidity ratio. The descriptive statistics for breach from 20% were therefore calculated to explore the severity of failure with respect to the liquidity ratio, as presented in Table 2.

Table 2: Descriptive Statistics for Severity of Failure Based on Liquidity Breaches

	Statistic	Std. Error
Mean	5.971	2.369
Std. Deviation	11.607	
Minimum	-16	
Maximum	17.62	
Skewness	-0.791	0.472
Kurtosis	-0.738	0.918

Source: Author's analysis of CBK/KDIC supervision reports (1993–2016)

The results in Table 2 reveal that the average severity was 5.971% above the bare minimum requirement, with a standard deviation of 11.607%. The worst case of severity of failure was a breach of 17.6% below the 20% minimum requirement. The minimum severity was -16, which refers to a bank that met the liquidity requirements but breached other criteria. Such banks were probably placed under receivership due to their failure to meet other set regulations, in addition to liquidity. A case in point was Pan African Bank, which was closed due to a violation of the Banking Act.

Capital Adequacy

Capital adequacy was the first independent variable examined in this study as a bank-specific factor with potential impact on bank failure in Kenya. To assess whether the failed banks maintained sufficient capital, the analysis focused on their compliance with the minimum core capital requirements stipulated by the Central Bank of Kenya. As outlined in the Banking Act (2017), this threshold is set at one billion Kenya shillings, approximately equivalent to USD 100 million. Evaluating capital adequacy provides insight into the financial resilience of the banks prior to failure and the extent to which capital shortfalls may have contributed to their collapse. From the content analysis, the concepts were coded, where one implied capital adequacy and zero implied capital inadequacy. As shown in Figure 3, content analysis revealed that thirteen banks (54.2%) of the institutions had inadequate capital.

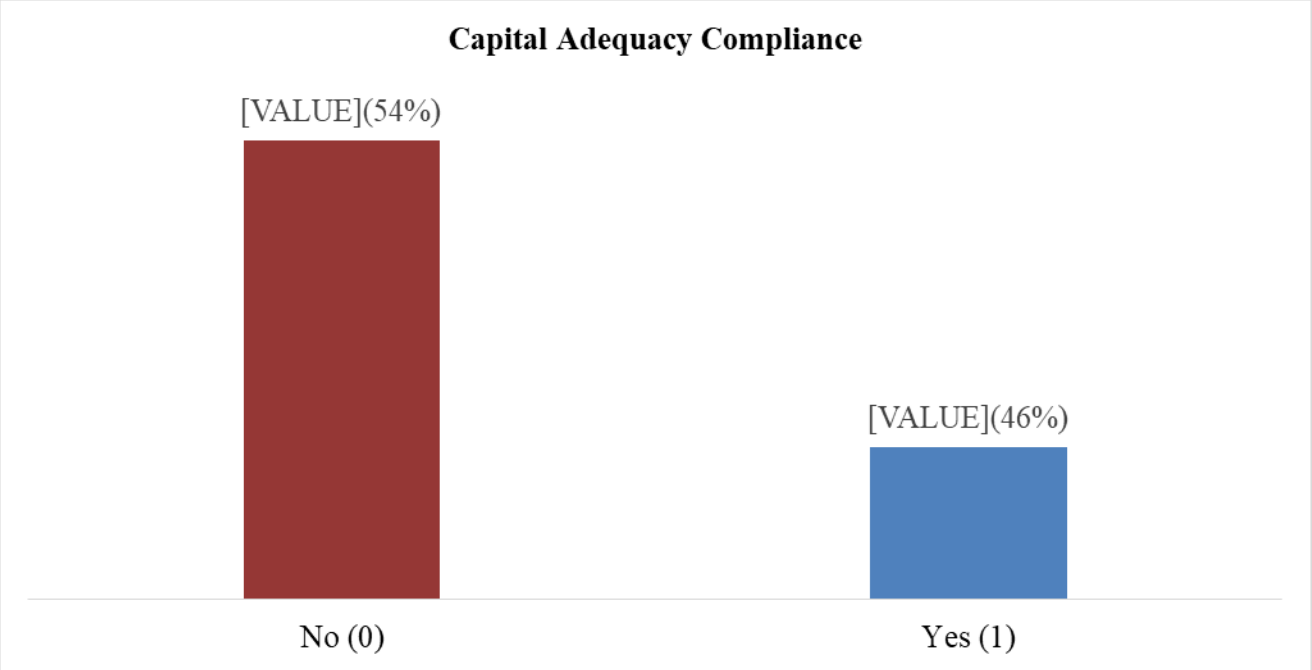

Figure 3: Compliance with Capital Adequacy Requirement

Source: Author's analysis of CBK/KDIC supervision reports (1993–2016)

This is consistent with Basel III capital adequacy standards, which emphasise the importance of maintaining sufficient capital ratios as a buffer against financial crises. Olalekan and Adeyinka (2013) emphasise that capital adequacy is a crucial safeguard against insolvency, suggesting that banks with higher capital reserves are better equipped to absorb losses during economic downturns.

Moreover, studies like Estrella et al. (2000) reinforce the importance of maintaining capital buffers to prevent financial distress, as well-capitalised banks are more likely to withstand adverse conditions.

Wanjugu (2017) highlights that for banks in Kenya, meeting minimum capital requirements not only ensures regulatory compliance but also contributes to long-term sustainability by mitigating liquidity risks and enhancing financial resilience.

Credit Risk Management

The second bank-specific factor examined in this study was credit risk management. To assess its impact on bank failure, data were coded on a binary categorical scale and analysed using mode as the primary measure of central tendency. The analysis focused on two key dimensions: credit concentration and the competence of credit officers.

Credit concentration was one of the measures of credit risk management by banks. Credit concentration was evaluated to determine whether a bank had excessive exposure to specific sectors, companies, or individual borrowers, or whether its lending book was diversified. Two binary categories were created from the content analysis, namely, Not concentrated (No=0) and Concentrated (Yes=1). The results are shown in Figure 4.

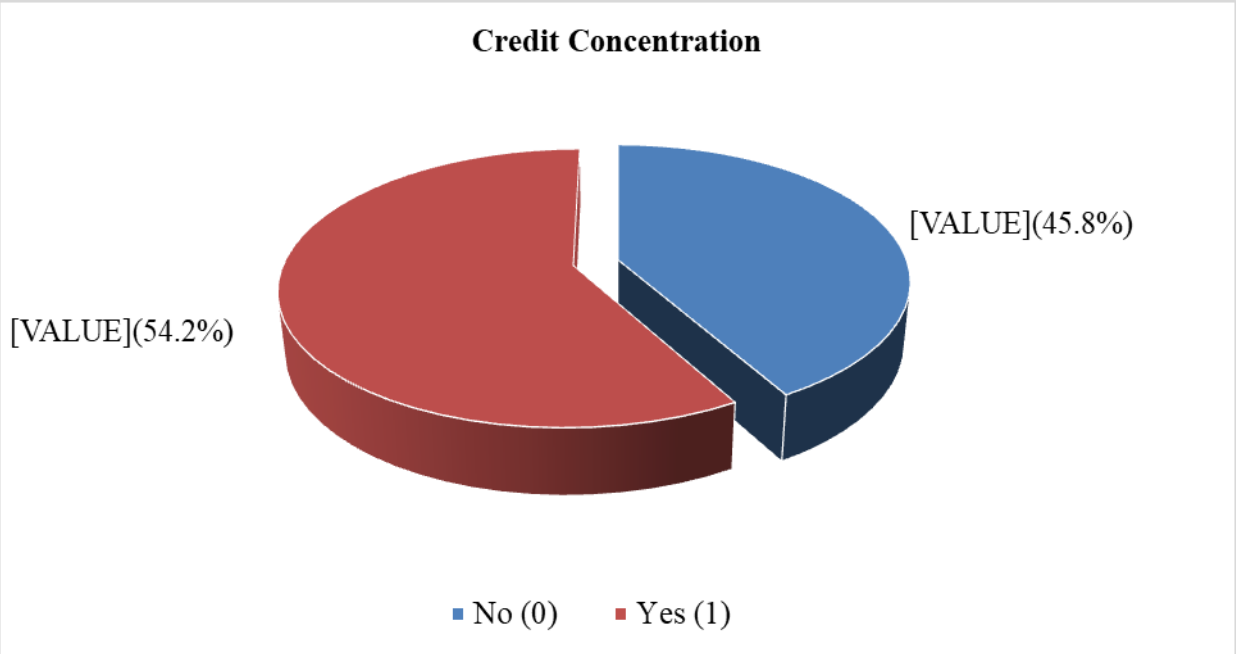

Figure 4: Credit Concentration

Source: Author's analysis of CBK/KDIC supervision reports (1993–2016)

As indicated in Figure 4, 54.2% of the banks exhibited credit concentration, while 45.8% were diversified. This distribution shows that, in the sample, concentrated lending was slightly more common than diversified lending. In practical terms, concentration implies that exposures were clustered in specific sectors or counterparties, whereas diversification implies that exposures were spread across several sectors or borrowers. This usage aligns with the literature, which defines credit concentration as the extent to which a bank allocates lending to a narrow segment of the economy, sectors, or counterparties, often summarised by indices such as the Herfindahl–Hirschman Index or by deviations from a diversified benchmark (Skridulyte & Freitakas, 2012).

Staff Competence

Staff competence is treated as a governance factor that underpins credit appraisal and monitoring, and is therefore related to, but distinct from, the portfolio-based measure of credit risk. Directed content analysis of the CBK banking sector supervision reports revealed that the variable 'Competence' was coded as a binary indicator, specifically 0 = incompetent staff and 1 = competent staff. The results are shown in Figure 5.

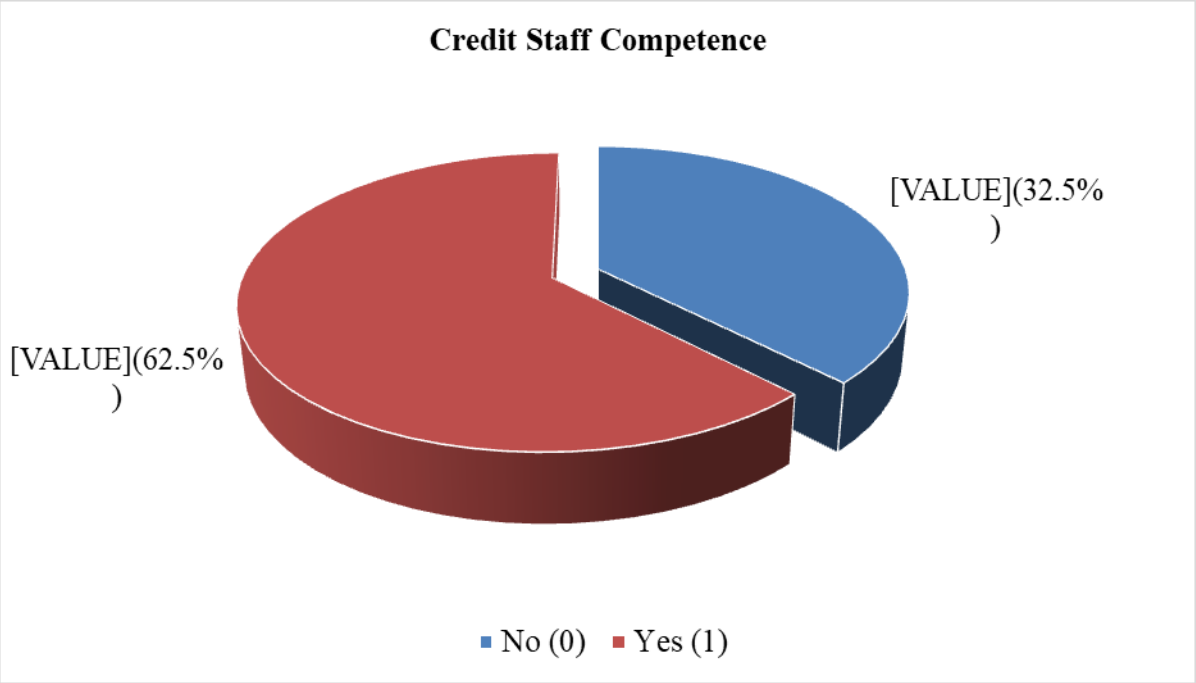

Figure 5: Credit Staff Competence

Source: Author's analysis of CBK/KDIC supervision reports (1993–2016)

As shown in Figure 5, 62.5 per cent of the failed institutions had competent staff, while the remaining 37.5 per cent had incompetent personnel. The implication is that staffing capacity was heterogeneous across institutions, with a sizable minority showing competency gaps, as recorded in supervision reports, pointing to the need for consistent training and governance standards. This finding aligns with the literature on the importance of staff competence in the effective management of credit risk. Mwangi (2014) underscores that inadequate staff training and lack of technical expertise often contribute to operational inefficiencies, particularly in credit risk management. Similarly, Muriithi and Waweru (2017) highlighted those weak internal controls often stemming from incompetent staff increase the likelihood of poor lending decisions, which can lead to the accumulation of non-performing loans.

Further, the study by Brownbridge (1998) emphasised that governance issues, such as lack of adequately trained staff, often underlie financial instability in African banks. Wanjugu (2017) also notes that improving staff competence in areas such as credit evaluation and risk monitoring is crucial to enhancing banks' ability to manage risks and make informed lending decisions, particularly in the context of Kenya's evolving banking sector.

Impact of Bank-Specific Factors on Bank Failure (1993-2016)

A multiple linear regression analysis was conducted to determine the impact of capital adequacy, credit risk management, and staff competencies on bank failure in Kenya. The study tested the following hypothesis:

Null Hypothesis (H0): There is no significant impact of capital adequacy, credit concentration, and staff competencies on bank failure in Kenya

To test the central hypothesis and the sub-hypotheses, three independent variables (predictors) and one dependent variable (outcome) were entered into the regression model for analysis. The dependent variable was bank failure, measured by the severity of deviation from the regulatory liquidity ratio. The independent variables were capital adequacy, credit concentration, and staff competencies. These variables were selected based on theoretical relevance and prior empirical research. Table 4 presents the model summary statistics and the strength of the relationship between the predictors and the outcome variable.

Table 4: Regression Model Summary for Bank-Specific Factors Impacting Bank Failure

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.726[a]	.526	.455	8.481

a. Predictors or independent variables: (Constant), Capital adequacy, credit concentration, staff competencies
b. Outcome of dependent variable: Bank failure

Source: Author's analysis of CBK/KDIC supervision reports (1993–2016)

As indicated in Table 4, the estimated model yielded an R-squared of 0.526 and an adjusted R-squared of 0.455 for the relationship between the bank-specific factors namely, capital adequacy, credit risk management, and staff competencies, and the severity of bank failure in Kenya. Because the model includes multiple predictors, the adjusted R-squared is the appropriate statistic for interpretation. Accordingly, the findings suggest that approximately 45.5% of the variation in the severity of bank failure among the sampled institutions can be explained by these three factors, as indicated by the adjusted R-squared. The remaining 54.5% of the variation is attributed to other variables not included in the model.

Table 5: ANOVA for Bank-Specific Factors Impacting Bank Failure

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1598.863	3	532.954	7.409	.002[b]
	Residual	1438.675	20	71.934		
	Total	3037.538	23			

a. Dependent Variable: Bank failure
b. Predictors: (Constant), Capital adequacy, credit risk management, staff competencies

Source: Author's analysis of CBK/KDIC supervision reports (1993–2016)

The Analysis of Variance (ANOVA) was used to test the overall significance of the regression model at a 5% significance level. The results, summarised in Table 5, indicate that the model is statistically significant, with an F-statistic of 7.409 and a p-value of 0.002, which is below the 0.05 threshold. This implies that, collectively, the three bank-specific factors have a significant influence on the severity of bank failure. The result confirms that at least one of the predictors has a statistically significant effect on the outcome.

The study also examined the individual significance of each of these bank-specific factors in explaining variations in bank failure across the 24 banking institutions assessed. The study results are presented in Table 6.

Table 6: Regression Model Coefficients for Bank-Specific Factors and Bank Failure

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	4.617	3.288		1.405	0.175
Capital adequacy	-8.561	3.819	-0.379	-2.242	0.036
Credit concentration	15.318	3.679	0.671	4.164	0.000
Staff competence	-6.264	3.879	-0.270	-1.615	0.122

a. Dependent Variable: Bank failure

Source: Author's analysis of CBK/KDIC supervision reports (1993–2016)

Table 6 provides the detailed regression results for each predictor. Starting with capital adequacy, the analysis shows a negative and statistically significant impact on failure severity ($\beta = -8.561$, $t = -2.242$, $p = 0.036$). This implies that a one-unit improvement in capital adequacy results in an 8.561 percentage point reduction in the severity of bank failure. This finding supports the rejection of the null hypothesis and confirms that well-capitalised banks are better positioned to absorb financial shocks, thereby reducing their risk of failure.

The conclusions from the model, which indicate that capital adequacy is a critical factor in preventing bank failure, were further echoed by a regulatory key informant who noted that operational banks generally meet capital requirements as per the Bank Supervision Department annual reports and CAMEL ratios, which are crucial for their survival. However, a liquidation key informant pointed out that the failed banks lacked sufficient capital and had to address poor credit management. This suggests that while capital adequacy is important, it may not be the only factor in ensuring stability, as effective risk management and other governance mechanisms also play a significant role.

This finding aligns with existing literature, such as Estrella, Park, and Peristiani (2000), who show that higher capital ratios serve as strong early-warning indicators of bank soundness. Similarly, studies from Nigeria and Kenya (Adeyemi, 2011; Cheserek, 2007) reinforce the point that well-capitalised banks are more stable and profitable. The evidence from recent research in Kenya (Wanjagi et al., 2024; Kilonzo & Atheru, 2024) further supports the notion that more substantial capital buffers enhance operational stability and resilience, in contrast to Jin (2013) findings that emphasise liquidity management.

The results in Table 6 show that credit concentration has a positive and statistically significant effect on failure severity ($\beta = 15.317$, $t = 4.164$, $p = 0.000$). Holding other factors constant, banks with more concentrated loan portfolios, on average, recorded about 15.3 percentage points higher severity than banks with diversified portfolios. In other words, heavier exposure to a few borrowers or sectors is linked to larger shortfalls from the 20 per cent liquidity requirement. A unit increase in poor credit concentration therefore leads to an approximate 15.3 percentage point increase in the severity of bank failure. Consequently, the null hypothesis was rejected, supporting the conclusion that higher

credit concentration significantly contributes to bank failure. The findings suggest that excessive exposure to specific borrowers or sectors increases the risk and weakens financial resilience.

These findings align with the sentiments of key informants that credit mismanagement could lead to liquidity-related challenges for banks in Kenya. A regulatory key informant noted that poor credit management could result in an increase in non-performing loans, and without good collateral, institutions would become insolvent. The liquidation informant however, noted that most banks diversify credit to avoid insolvency. The interviewee observed that the leading cause of the bank failure in Kenya was fraud, which is beyond the scope of this study.

The study findings on the effect of credit risk management on bank failure align with prior evidence. Brownbridge (1998) and Moyo et al. (2014) found that weak credit policies and excessive risk-taking were prevalent among failed African banks. Fofack (2005) reports that non-performing loans exceeding 30 per cent in the 1990s were indicative of inadequate credit controls. Similarly, Gathaiya (2017) highlights insider lending and fraud in recent Kenyan bank failures, which supports the observed positive association between poor credit management and the severity of failure.

Staff competence did not have a statistically significant association with the severity of bank failure at the 5% level ($\beta = -6.264$, $t = -1.615$, $p = 0.122$). Accordingly, the null hypothesis for this predictor was accepted. Conditional on capital adequacy and credit risk management, the coded measure of staff competence did not meaningfully explain differences in failure severity within this sample.

The insignificant impact of staff competence on bank failure result aligns with work by Beck et al. (2006) and Gorton & Winton (2003), arguing that broader institutional and structural factors dominate outcomes, namely, effective supervision, governance, and systems. It echoes the view that staff skills matter most when supported by adequate technology, controls, and clear credit policies, which are captured in other predictors such as capital adequacy and credit risk management. By contrast, it disagrees with studies that emphasise weak management and skill gaps as central features of failed banks in Africa and Kenya, namely, Brownbridge (1998), Mwangi (2014), and Muriithi and Waweru (2017).

CONCLUSION

This study examined how capital adequacy, credit risk management, and staff competencies—three key bank-specific factors—impacted bank failure in Kenya during the period 1993 to 2016. Using both quantitative and qualitative methods, the research assessed how weaknesses in these areas contributed to the severity of failure, measured by deviation from the regulatory 20 per cent liquidity threshold.

The findings revealed that capital adequacy had a significant effect on bank failure. Banks that maintained strong capital buffers were better equipped to absorb financial shocks and remain solvent during periods of stress. This implies that when capital is sufficient, banks are more resilient and less likely to breach liquidity requirements. On the contrary, when capital is inadequate, as was the case for many failed banks in Kenya, financial shocks quickly eroded the limited reserves, leading to liquidity crises and eventual closure.

With respect to credit risk management, the study showed that banks with high credit concentration faced elevated exposure to borrower or sector-specific risks. This implies that if credit is prudently

diversified and risk assessment frameworks are robust, banks can maintain loan quality and regulatory compliance. Conversely, where poor credit practices prevail, including excessive lending to connected parties or risky sectors, institutions become highly vulnerable to default clusters that deplete liquidity and trigger failure, as evidenced in several Kenyan banks.

In terms of staff competencies, the analysis found that over half of the failed banks had weaknesses in credit-related decision-making and oversight processes. This means that, when staff are skilled and adequately trained, they are more capable of managing credit risks and ensuring regulatory standards are upheld. On the contrary, when key personnel lack the capacity to evaluate risk or enforce lending discipline, misjudgements go unchecked, internal controls break down, and institutions spiral into distress.

The study thus affirms that the stability of banks is undermined when capital is insufficient, credit risks are poorly managed, and staff lack the required expertise. This scenario was experienced in Kenya between 1993 and 2016, where the convergence of these internal failures contributed to widespread bank closures despite the existence of elaborate regulatory guidelines.

RECOMMENDATIONS

The study notes that while the Central Bank of Kenya (CBK) and the banking sector have made commendable progress in strengthening the regulatory environment, particularly through the implementation of risk-based capital adequacy standards aligned with Basel III guidelines, further refinements are essential to enhance the stability of the banking sector. Firstly, CBK should continue enhancing the supervisory review process of banks' Internal Capital Adequacy Assessment Process (ICAAP), with a critical focus on sector-specific vulnerabilities and bank-specific stress scenarios. Strengthened supervisory engagement would ensure that banks not only meet minimum capital requirements but also hold buffers proportionate to evolving risk profiles. While banks bear the cost of capital retention, the long-term benefit is sector-wide stability, which also enhances depositor confidence.

Secondly, CBK regulators and the boards of management of banks should institutionalise credit risk audits that flag unscrupulous credit practices early and ensure lending policies are aligned with broader macroprudential objectives. Banks with over-exposure to single sectors or borrowers should be required to demonstrate sufficient provisioning and internal oversight. This burden lies with bank leadership, but effective oversight protects depositors and reduces the cost of future interventions.

Thirdly, the industry must invest in strengthening human capital, particularly in credit analysis, risk modelling, and compliance. Cases such as Equity Bank's dismissal of 1,200 employees in 2025 over malpractice underscore both the scale of operational risk and the need for strong internal governance structures. Equity Bank's stance provides a leadership model for the sector to follow in promoting institutional integrity and staff accountability.

Finally, CBK should publish thematic findings from its supervisory assessments and post-resolution reports. This would facilitate sector learning and transparency, helping all stakeholders, including mid-tier and smaller banks, to understand systemic red flags. The modest cost of disclosure is outweighed by the improved market discipline and early-warning awareness that it fosters across the banking sector.

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